detection (sight-line detection) of the lines of sight of the conference participant HM1 can be taken.

Fig. 55 is a flowchart of sight-line detection processing in the attention-degree-information generating section JB1.

In Fig. 55, the attention-degree-information generating section JB1 receives image data captured by the camera provided, for example, for the monitor device MDm disposed at the front of the conference participant HM1 in step S11. In the next step S12, the attention-degree-information generating section JB1 uses the color information of the sent image to detect the outlines of both eyes of the conference participant HM1 in a facial image. More specifically, the attention-degree-information generating section JB1 extracts color areas, such as skin, whites, and irises, by using the color information of the sent image, and obtains, for example, the boundaries of the extracted color areas to detect the outline E of the right eye and that of the left eye as shown in Fig. 56. Fig. 56 indicates only one eye.

Then, in step S13, the attention-degree-information generating section JB1 obtains the positions of the leftmost point F1 and the rightmost point F2 of the right eye and those of the left eye according to the outlines E of both eyes obtained in step S12, determines a search area NE for

searching for the nostrils, as shown in Fig. 57, with the positions of the rightmost and leftmost points F2 and F1 of the right and left eyes being used as references, and detects the positions of the nostrils NH in the search area NE. More specifically, the attention-degree-information generating section JB1 obtains a line M which makes the center Q of gravity of the sets of pixels constituting the outlines E of the right and left eyes and the secondary moment (inertia for the line) of the sets of pixels constituting the outlines E smallest; obtains pixels one each in the right and left directions, located at the largest distances L1 and L2 from the center Q of gravity in the directions of line M; and obtains the pixels as the rightmost and leftmost points F2 and F1, as shown in Fig. 56.

Next, the attention-degree-information generating section JB1 uses the positions of the rightmost and leftmost points F2 and F1 of the right and left eyes, obtained as described above, as references and determines the search area NE for searching for the nostrils in the lower direction from the rightmost and leftmost points F2 and F1, as shown in Fig. 57. Since the images of the nostrils NH are darker than that of the other parts, the attention-degree-information generating section JB1 detects low-luminance image areas as the positions of the nostrils NH in the search area NE.

Then, in step S14, the attention-degree-information generating section JB1 assumes the central positions ECs of the eyeballs EBs and the radius "r" of the eyeballs EBs according to the geometrical positional relationships among the positions of the rightmost and leftmost points F2 and F1 of the right eye, those of the rightmost and leftmost points F2 and F1 of the left eye, and those of the nostrils NH, as shown in Fig. 58.

In step S15, the attention-degree-information generating section JB1 uses the luminance information of the image in the outline E of the right eye and that in the outline E of the left eye to detect the central positions EAC of the pupils EA.

In step S16, the attention-degree-information generating section JB1 calculate vectors EV connecting between the central positions EC of the eyeballs EB detected in step S14 and the central positions EAC of the pupils EA detected in step S15, regards the obtained vectors EVs as the lines of sight, and determines the directions in which the vectors EVs are directed, namely, determines the monitor to which the vectors EVs are directed among the monitor devices MD2 to MDn.

With the foregoing flow, the attention-degree-information generating section JB1 detects the lines of sight of the conference participant HM1.